NEW YORK STATE MECHANIC.

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PRINCIPLES OF MECHANISM.

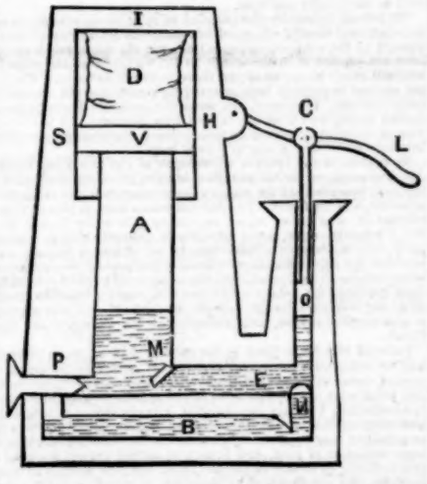
FLUID PRESSURE—HYDROSTATIC PRESS.

It is exceedingly difficult to define what is meant by *a fluid*. We cannot say that it is a body whose parts may be made to move among one another, or be separated from one another by any assignable force, however small, for nature presents us with no fluid answering to this description. Were there no *resistance* opposed to the motion of the particles of fluids, one among the other, having been once put in motion they would never return to a state of rest; and, passing this inconsistency in such a definition, it would then be more applicable to a definition of a powder, or of sand.

There is, however, one distinctive characteristic of fluids, which is peculiar to them; that is, the power of propagating pressure applied to them, not in the direction only in which it is applied, as is the case with solids; or in directions limited within a certain angle, as is the case with bodies composed of detached particles, sand for instance; but in every possible direction. To *this* may be traced all those other properties which enter into our notion of a fluid body, as distinguished from a solid.

The particles of water, and other fluids, when confined, press on the vessel which contains them in all directions, upwards, downwards and sideways. From this property, that pressure applied to a fluid is propagated *in every direction*, may be deduced this other, *that it is propagated* EQUALLY *in every direction*. This is what is meant by *fluid pressure*, and it is from this property, together with the might or gravity of fluids, that very unexpected and surprising effects may be produced. The effect of this property, which we shall first examine, is, that a quantity of water, however small, will balance another quantity, however large. This is practically illustrated every day. The small quantity of fluid contained in the spout of a coffee pot balances the larger quantity in the body of the pot. If the latter pressed downward and outward with a force proportionate to its quantity, it would certainly displace the quantity contained in the spout. We will suppose that a cistern capable of holding one hundred gallons be fitted at the bottom with a bent tube containing one gallon, which should rise to an equal height with the cistern. Now, then, by pouring water into the tube we shall eventually fill the cistern, and when it is full it is evident the one gallon in the tube will balance the hundred gallons in the cistern, and the surfaces of both stand exactly at the same height. From these facts, then, we learn *"that the pressure of a fluid is not in proportion to its quantity, but to its height, and that a large quantity of water, in an open vessel, presses downward with no more force than a small quantity of the same height."* The size and shape of the vessel are of no consequence, nor will they alter the result. In no case will the weight of a quantity of a liquid, however large, force another quantity, however small, above the level of its own surface. Thus, if a house were situated on the top of a high hill, and on the top of another, with a valley intervening, were a spring, the water from it might be conveyed to the house by a pipe following the curve of the valley and communicating with the spring. The force of the pressure on one side would carry the water in the other to an equal height. This truth is derived from this and other experiments *"that the pressure of a liquid is in proportion to its height and the area of its base*. This principle is illustrated in a very striking manner by the experiment which has often been made of bursting the strongest wine cask with a few ounces of water. Suppose a tube one fourth of an inch in diameter and thirty feet long be screwed, water tight, into the head of a strong cask already filled with water. When water is poured into this tube so as to fill it gradually, the cask will show increased signs of pressure, by emitting the water through the pores of the wood, and between the joints; and finally, as the tube is filled, the cask will burst asunder. The force thus acquired is immense, if not unlimited; but, as a small quantity of water, to produce these results, must be extended to a great elevation, the forcing pump is often used, for the sake of convenience, instead of a column of water. This will be shown in the annexed engraving and description of the *hydrostatic press*, the most powerful of any instrument known. The only difference is in the application of the principle, for by applying a great force to a short column of water we produce precisely the same results as if the column were continued to an enormous height; and, bearing in mind the important conclusion and truth "that the pressure of a fluid is in proportion to its height (or downward force) and the area of its base," we proceed at once to the consideration of the following sectional diagram of

BRAMAH'S HYDROSTATIC PRESS.



A M and O E are hollow cylinders, represented as filled with water, whose sides are of great thickness and strength. The diameter of O E is much less than that of A M, and they communicate through a pipe, E M. A is a strong solid piston working closely in the hollow cylinder A M, and on it rests the platform or follower, H V S, moving in the pressing frame, H I S. C O is another piston, working in the lesser cylinder C O E, and moveable in it by means of a lever, L C H, whose fulcrum is at H. Immediately below the piston, O, is a valve, N, *closing downwards*, and communicating with the reservoir, B, containing water. The channel or pipe, E M, contains a valve *opening into the cylinder*, A M. Now, then, the piston, O, being made to ascend, as in a common pump, by the lever, L, would tend to create a vacuum, and consequently on the principle of atmospheric pressure, the water at B, communicating with the air by a pipe not represented in the cut, would raise the valve, N, and rush into the cylinder, O E. The lever being then *pressed down*, the valve, at N, would close and the water would be forced through the channel, E, opening the valve at M into the cylinder, M, under the piston, A. When the fluid is thus expelled the valve at M closes and retains it in the cylinder, M, and, the operation being continually repeated, the piston, A, would be made to ascend. The substance to be compressed is placed between the follower, V, in the frame, H I S, and represented by D. P is a screw plug by which to allow the escape of water from the cylinder, M, after the operation of pressing, and it suffers the water to return again into B, for another operation.

Having thus given a description of the operation, it remains for us to ascertain its force, inasmuch as we have said it was the most powerful machine in existence. By recurring to what we have twice said, that the force was in proportion to the height, or *pressure*, and the area of the bases, we shall have the key to the answer. Then we have the simple proposition, *that the pressure upon the base of the piston*, A, *is to that upon* O, *as the area of the former is to that of the latter*. If the piston O is half an inch in diameter, and the piston A one foot in diameter, then the pressure on A will be 576 times greater than at O, because the area is 576 times greater. Thus, if we suppose the pressure on the small piston O be one ton, that on A will be equal to a weight of 576 tons.

But, besides this, there is another consideration. We have the force acquired by the lever, in itself immense. We will make an estimate, and will suppose the piston O, instead of one half an inch in diameter, to be one fourth of an inch, and A the same as before, 12 inches. We will suppose the length of the lever, L H, to be 48 inches, and the distance of the point C from the fulcrum, H, 4 inches. We will now apply the force of 100 pounds at L, and see how great a force it will have in pressing the cylinder A against the object, D.

First, we wish to ascertain the force 100 pounds will have on the piston O. Now, then, the rule in regard to the force of levers will show it in a moment. The force at O would then be 1,200 pounds. Now, the area of A (12 inches) is 2,304 greater than of O, (one fourth of an inch,) therefore, 1,200 multiplied by 2,304 will give the pressure at A, and that is 2,764,800 lbs., or 1,382 tons! One man, with one hand, with this machine, could exercise this immense power. But, supposing that the lever, instead of 4 feet, or 48 inches, were 10 feet, or 120 inches, the force at A would be, with the power of 200 pounds, the enormous and almost incredible one of thirteen millions eight hundred and twenty-four thousand pounds, or six thousand nine hundred and twelve tons. If the piston A were increased to 3 feet in diameter, the force would be 64 times as much, or about 443,000 tons, a force far too great for the strength of any material with which we are acquainted. In fact, this is the simplest and most applicable of all contrivances for increasing human power; and the only limit to the force which may be called into action by it, is the want of materials of sufficient strength to enable us to apply the enormous pressure which it generates. Had Archimedes been acquainted with it, he certainly would have preferred it to the lever for raising the world.

This press is applied to many useful purposes,

among which compressing hay, extracting piles, trying cables, &c., may be mentioned. In fact, there is no force known which may not be made to yield to this press.

Undoubtedly the same principle has torn mountains asunder, and produced earthquakes; at least, we may readily conceive such results from the accumulation of high columns of water in the fissures and crevices of the earth, or in high mountains.

DOING AS OTHER PEOPLE DO.

"Did you notice the beautiful sofa that Mr. Hamilton has bought?" Mrs. Foster said to her husband, as they gained the street on leaving the house of a friend.

"Yes, I noticed that they had a sofa."

"It was a beauty. Oh, I wish I had one, Henry! Our parlors looks so naked, with nothing at all in them, hardly, but a dozen common chairs."

"I am sure Hannah, they are neatly carpeted, and have a pair of good looking tables and a looking glass."

"But that's no kind of furniture. Every body has a sofa now, and I'm sure we might."

"But I am really not able to buy a sofa, Hannah."

"I am sure you can earn as much as Hamilton does, and our family is no larger."

"I don't know how it is then," Mr. Foster replied thoughtfully. "We cannot afford to live in the same style that he does."

"O, you only think so. Certainly there can be no good reason why we may not. Nearly all of our acquaintances have handsomer things about them than we have, and I am sure we ought to do as other people do, who are no better off."

"I don't know as to that Hannah. I shouldn't like to do altogether like some other people, of whom I could tell."

"Yes. but this is another matter."

"Well, perhaps it is, but really, I don't think we can afford to buy a sofa."

"O, yes we can; you earn twelve dollars a week, and I am sure that is good wages. We can live on eight dollars easily; and with the other four, we might buy a great many nice things for our parlor during the course of the year."

"But don't you think that it would be much better for us, Hannah, if we can really save four dollars a week, to put them in the savings bank instead of spending it for what we do not really need?"

"O, but we can put money into the savings bank after we get the sofa. Four dollars a week comes to over two hundred dollars a year; and a beautiful sofa will not cost over forty or fifty dollars. Mrs. Hamilton said that they paid forty five dollars for theirs, and that the cabinet maker doesn't want his money for six months. We could get one just like it and save more than enough to pay for it, long before the six months are out."

"Still Hannah, we haven't saved half that sum in the past six months, or indeed in the whole time that has elasped since we were married."

"No, but we can do it easily enough if we try. Eight dollars a week is plenty for us to live on. I will be as saving as I can, in every thing. The children will want but very few clothes for some time to come, and you have several old pairs of pantaloons, and one or two old coats, that I can cut up and make for them when those they have, are worn out"

"Who made Mr. Hamilton's sofa?" Mr. Foster asked, evidently moved by his wife's arguments.

"Mr. Brace, around in Thompson street, and Mrs. Hamilton said he had another just like hers."

"For how much, did you say?"

"Forty five dollars."

"Forty five dollars" (musingly). "Ten fours make forty, and four make forty four. If we could save four dollars a week, for a little over eleven weeks we could pay for it."

"Yes indeed, and we can easily save that much," said Mrs. Foster, in a lively tone.

"You think so?"

"Certainly, I know so."

A sigh followed this positive assertion of his wife, for Mr. Foster felt by no means so certain. But as his better half seemed confident, his own mind gradually became assured, and, finally it was agreed that he should go on the next day, and buy a sofa, on a credit of six months, if that time could be obtained on the purchase. In due time the sofa was obtained, for Mr. Foster was known to the cabinet maker as an honest and industrious mechanic.

"Oh, is it not beautiful!" Mrs. Foster exclaimed, as the highly polished piece of furniture was brought in, and placed in the small parlor.

"It is certainly a comfortable affair!" the husband said, seating himself and rising and falling with the spring of the seat.

For some time, Mrs. Foster enjoyed her new sofa, with a feeling of lively pleasure. About four weeks after, she called in again with her husband, to spend an evening with Mr. and Mrs. Hamilton.

"How neat and even elegant they have every thing?" Mrs. Foster said as she proceeded homeward, after their visit had been completed.

"Yes, they certainly have every thing around them very comfortable."

"And Mr. Hamilton earns no more than you do."

"No."

"How beautiful their set of cane-seat chairs looked. And how much more beautiful they are than the common wooden ones like ours."

"And yet, Hannah, the latter are just as comfortable."

"Oh, no indeed! Why how you talk! There is no chair so pleasant as the cane-seat chairs."

"But they cost a good deal."

"Only twenty-five dollars a dozen. And you know we can save that much in about six or seven weeks."

"So, then you are bent on having a set of those chairs."

"Oh no—not bent on it. But then, I think we ought to have a set. Other people can have them, who are no better off; and I don't see any reason why we cannot do as other people do."

"I don't, myself, see, exactly, how we are going to do as other people do in the matter of buying a set of cane-seat chairs. One thing is certain, we have not yet saved a cent towards paying for our sofa, and it is four weeks since it was sent home."

"Oh, but Henry, you know that we have had to pay George's quarter bill in that time, which was four dollars. And then we have bought a barrel of flour."

"Very true. But will there not be, every week or two, something or other to take one or two, or three, or even five dollars more than what is required for current expenses?"

"Oh, no. Why should there be? Eight dollars a week will meet every thing."

"I could hope so, Hannah."

"I *know* so, Henry. Other people can get along on no more, and I am sure that we can."

The husband did not feel so confident. Still, he allowed his better judgment to come under influence, and his true perceptions as to the consequence, were obscured. On entering their own neat and comfortable home, for Mrs. Foster was quite a tidy housewife, they seated themselves upon the sofa, now the pet article in their house.

"How mean them chairs do look!" Mrs. Foster said, with a toss of the head, and a slight curl of the lip.

"They don't look so handsome, certainly, as Mr. and Mrs. Hamilton's. But, then, they are very good chairs of their kind."

"Of their kind! Oh, yes. Of their kind. But they are not the kind that other people have."

"I know a good many people who have no other kind."

"Yes, but who wants to live as some people live? Some have no parlor at all. Not a spare room, nor a spare bed in the house. But that wouldn't suit me at all. I like to live as other people, in similar circumstances, live. As for instance, the Hamiltons, who are no better off than we."

"I am sure, Hannah, that it puzzles me to tell how they live in the style that they do, on twelve dollars a week."

"It's plain enough, I think. They save three or four dollars out of their ordinary expenses, and spend that in getting comfortable things around them."

"Then, if they save money, certainly we should,"

"Of course, and we can save just as they can. You will get a set of cane-seat chairs won't you?"

"We cannot buy them now, for I have not a single dollar ahead."

"That needn't matter, you know, for you can buy just as many as you want, on credit. You know half a dozen chair-makers who would be glad to sell you on credit."

"Don't you think it would be better for us to wait until we have saved enough to buy them with. Then there would be no danger of our not being able to pay for them."

"Oh, but we can pay for them, easily enough."

"Well, if you think so," the husband said, yielding his better convictions to the persuasions of his wife.

On the next day. Mrs. Foster, by permission of her husband, went to a chair maker with whom he was acquainted, and bought a dozen cane-seat chairs, which were to be paid for in six months. The bill amounted to twenty-four dollars. It was with no ordinary degree of pride and pleasure that she surveyed her new chairs, after they had been sent home. But, all at once she perceived that her parlor carpet, which was of cotton, had become much faded, and really disgraced her new sofa and chairs.

"Ain't they beautiful!" she remarked to her husband when he came home in the evening from the shop.

"They certainly are very beautiful chairs, Hannah."

"But——' hesitating.

"But what, Hannah?"

"But indeed, this carpet does look too bad."

"How look bad, Hannah?"

"It is all worn and faded. And is nothing but a common piece of cotton carpeting at best."

"It cost sixty cents a yard, though."

"But that is no price to pay for a good carpet. Mrs. Hamilton's cost a dollar and a quarter. And I'm sure that we can afford to have as good things as she can. You earn as much."

"If I do, some how or other it does not seem to go so far," the husband replied, in a half desponding tone.

"There is no reason why it should not. And there is not only Mr. and Mrs. Hamilton, but half a dozen others that I know of, who have elegant, ingrain carpets and sofas, and cane-seat chairs, and I don't know what all, and yet have no larger income than we have."

"I am sure I don't know how they do it. I can't get any thing ahead. It takes all that I earn to get something to eat and wear, and have enough left to pay the rent."

"Why, I am sure Henry, we can live on eight dollars a week, and you earn twelve."

"I am afraid not, Hannah."

"Oh yes we can. I'll guarantee that our expenses shall not exceed that sum."

"They have exceeded it, you know."

"That was only because we did not economise properly. And the last four weeks, you know, we have had some extra expenses, that do not occur more than once in three months."

Thus Mrs. Foster urged, and her husband soon yielded. The desire to do as other people did—to have things about her as other people had about them, was too strong to be resisted, and obscured all ideas of prudence. Thirty yards of ingrain carpeting were bought on trust, at one dollar and twenty-five cents a yard, amounting to thirty-seven and a half dollars.

For the first time in his life, Mr. Foster found himself burdened with a debt—a debt of more than one hundred dollars. This was a sum of no mean importance for a man of family, the extent of whose earning was but twelve dollars a week, and especially for one who had a nervous shrinking from the thought of being in debt. *(To be Continued.)*

BUFFALO HARBOR.

The determination to construct the grand canal renders it certain that the point of intersection of the canal with the lake must become eventually a place of great commercial importance, and the hope that Buffalo harbor would become the place of intersection roused the inhabitants of the city to the importance of improving their harbor to accommodate the business which was certain to concentrate at that point.

In view of this improvement strenuous efforts were made by the citizens of Buffalo to induce the state to build two wooden piers on the sides of Buffalo creek, and extending to twelve feet depth of water in the lake. This it was thought would remove a sand bar that then obstructed the mouth of the creek, and prevent its renewal. The most, however, that could be obtained from the state was a law, passed in 1819, authorizing a loan of $12,000 to nine citizens of Buffalo, who were to give security for the repayment of this loan in ten years. Hard as these terms were, the loan was taken by five of the citizens of Buffalo, and with the aid of private subscriptions the work was completed, under the direction of S. Wilkeson, Esq., in 1821. The plan succeeded admirably, and, in consequence, Buffalo was selected as the point of

intersection, and by a law subsequently passed the loan was canceled.

The general government has since assumed the charge and direction of the public works for the improvement of the harbor, and the various appropriations, including that of July 6, 1838, amount to $229,211.31. The first expenditures were in 1826–7, of some $19,000, in extending the *south pier*. These works were all carried away by a storm, in January, 1828.

Considering it of vast importanee to have these works promptly replaced, in a substantial manner, the citizens engaged the immediate attention of Congress upon the subject, and in the next May an appropriation was made for the purpose. T. W. Manner, U. S. engineer, had the work given in his charge, and Isaac S. Smith, of Buffalo, was appointed local superintendent. The arrangement of the work should probably be credited to Mr. S., at any rate, under his direction the masterly design was erected in the most substantial manner.

THE MOLE AT BUFFALO.

This is the work which we have just mentioned as having been commenced in 1838, under Mr. Smith's superintendence. It is called the "*mole*," that term being more expressive of magnitude, as well as the object of the work, than "*pier*."

This mole is the most permanent and beautiful work of the kind in this country, and the best adapted to the object of its construction. If we mistake not, it is spoken of in high terms of commendation by Capt. Hall, of the British navy, in his "Travels." It is an extension of the south pier above mentioned, running out into the lake to a depth of 17 feet of water—is designed to, and effectually does protect the harbor from the heavy lake seas, and prevents the formation of the sand bar. It is 1,600 feet in length, with a uniform elevation of 16 feet above the level of the water; a level summit of 12 feet wide, flagged with heavy stones, runs from the point of commencement to the light house, some 100 feet from the outer end of the mole; on the outside the mole gradually slopes from the edge of the summit into the water; the angle of the plane lessening as the mole extends into the lake, and in proportion has to encounter heavy seas. On the inside is a towing path, or wharfage, 22 feet wide, 4 above the water and 12 below the summit, with which it communicates in several places by stone steps. This wharfage is also heavily flagged and has a line of cut stone posts, to fasten vessels. The base of the work gradually widens from about 50 feet at the point of commencement to about 100 feet, within 200 feet from the end, where it rapidly extends to 140 feet, and the outside of this widened part with the end is made to assume an octagonal shape, so that the sea can act directly on but a small part at a time; at nearly the centre of the widened part, and some 100 feet from the end of the mole, stands the lighthouse, at the termination of the summit—from which, on the exposed quarters, the mole slopes to the water's edge.

In constructing this, the most exposed part of the mole, Mr. Smith pursued an entirely different plan from the one pursued at every other work of the kind in the country; which is, to flag the inclined plane or slope with a smooth surface. Built in this style the wave not only could spend its full force on the face of the slope, but the air under the flagging reacted after the compression effected by the weight of the wave, throwing up and disarranging the flagging. Mr. Smith's course was to set the stones *on end*, and, as he proceeded from the lighthouse, was at pains not only to procure the largest stones, but to select those of the roughest surface. The inequalities of the surface of these stones, with their position, thus form a thousand little cavities in the structure, in which a wave would lose itself.

The policy of this plan was plainly perceplible at the time I visited the mole; there being a high wind, the sea beat with considerable force upon upon the work, and waves which, on a smooth surface, would have nearly reached the lighthouse, lost themselves in the cavities within a few feet of the edge, and thence running back through a hundred quiet channels into the lake, left the cavities ready to absorb the next wave that might break upon it.

A sea wall, for which congress made an appropriation of $48,000, is now in the course of erection, in a substantial manner. It extends from the under point of the mole, nearly a mile along the outside of the peninsula, lying between lake Erie and the creek.

Other improvements are now required in Buffalo harbor, by the increase of commerce, and will undoubtedly be made, but what shape they may assume is not yet determined on. B.

INVENTIONS, DISCOVERIES, ETC.

MANUFACTURE OF HORSE-SHOES BY MACHINERY.

Mr. Henry Burden of this city invented several years since a machine for the manufacture of horse-shoes, and manufactured soon after its completion about 200 tons of the article. Not having, however, at that time sufficient room in his establishment to carry on this branch of manufacture conveniently, without detriment to his other business, he suspended it until this summer; having in the meantime made essential and important improvements in his machinery, by which the horse-shoes now constructed are far superior to those made by the original machinery. His new machines went into operation a few days since, and are now in the full tide of successful experiment, as may be satisfactorily proved to all who will visit his works. We paid them a visit the other day, and were highly gratified with witnessing the powerful and ingenious machinery by which square, straight bars of iron are transformed into horse-shoes, groved and punched, at the rate of fifteen per minute.

The machines used by Mr. Burden for the construction of horse-shoes are three in number. The iron, being heated to a sufficient degree, is placed in the first, which cuts it off the required length, flattens it, grooves it, and preforates it for the purpose of receiving the nails by which it is to be fastened to the horse's foot. It is next passed through the second machine, which bends it to the required shape, and finally to the third, which turns up the end of the shoe, to form the heel. Steel corks, made also by a machine, are afterwards welded on to the shoe by a very rapid process, which completes the whole work. The shoes thus made, require no hammering or any attention whatever, but may be immediately applied to the use for which they are intended. The present cost of shoeing a horse by the old method is $1,25. By the use of Burden's patent shoes, allowing the cost of nailing them on to be twenty-five cents per set, the cost of shoeing a horse will be reduced to fifty or sixty cents—or about one-half the present cost. It must be evident therefore, that the patent shoes of Burden are destined to supercede, and at no very distant day, those manufactured by hand. They will probably constitute an article of merchandize, like other descriptions of hardware, and be sold by the merchants generally in town and country. They are furnished of five different sizes, so that there will be no difficulty experienced in fitting horses' feet of all the variety of sizes which obtain among them. Mr. Burden uses in the manufacture the best of Swedes iron, and the strength and durability of his shoes may be depended upon.

According to the last census there are 4,000,000 horses in the United States. Allowing half of this number to require shoes, it is estimated that at least 25,000 tons of iron will be required to shoe them every year. Should horse-shoes of Mr. Burden's manufacture become generally adopted, as they doubtless will, it is evident that our city will derive no little advantage from the transportation alone of so large an amount of freight; to say nothing of the other advantages to be derived from becoming the seat of an important manufacture.

We regret that we are unable to give a detailed description of the ingenious and complicated machinery invented by Mr. Burden for this new branch of manufacture. We regret it the less, however, when we consider that his works are within a short ride of the centre of our city, and that they can easily be visited by all who feel an inclination to view one of the most remarkable and useful machines ever invented by human ingenuity.—[*Troy Daily Whig.*

WOOD'S PATENT PLOUGH CASE.

The case of the executors of Jethro Wood vs. A. J. Longworthy, for an alleged infringment of his patent for the cast iron plough share, &c., was tried on the 27th day of June, at the Circut Court of the United States, held at Canandaigua. The defence, set up under a special notice, was that Jethro Wood, whose patent was granted in 1819, and revived and continued for the further term of fourteen years, by a special act of Congress, passed in 1832, was not the original and first inventor of the supposed improvement in cast iron ploughs. The testimony was so conclusive upon the point of prior invention and use of the thing patented, by others, that the jury found a virdict for the defendant without retiring from the court room.

Counsels for the plantiff, R. Campbell and J. Willson; for defendant, S. Mathews, and G. H. Chapin.

The verdict in this cause settled a very important right. It will prevent in future, the exaction of one dollar for each plough sold; that being the tariff which Jethro Wood claimed of the ploughmakers, prior to the renewal of his patent. The determination of the cause will relieve the farmers from an onerous and unjust tax, which has been already too long submitted to, rather than incur the trouble and expense of subjecting Wood's patent to the test of a trial before a court and jury. There were several other causes of the same nature ready for trial at the circuit, but after the verdict in this case, the plantiff's counsel refused to try them.

CALICO PRINTING.

A discovery has lately been made in calico printing which will probable cause a reduction in the price of that article; it has heretofore been necessary to put on each color from a different block, for which purpose several impressions were necessary. The invention alluded to obviates this difficulty; the whole figure is engraved upon one block, the different parts consisting of different metals, screwed on the block; a peculiar kind of ink, the secret mode of preparing which has not transpired, is then placed uniformly over the metalic surface, and a stream of electricity being directed momentarily upon it, the color of the ink is changed instantly from a very beautiful green to a variety of colors, differing according to the metal upon which it is placed, that on the portions of the figure which are engraved on wood, retaining its original green color; an impression is taken immediately, and the various colors thus transferred to the calico. The expense of the block and ink is something more than that of the old plan, but the labor which is rendered necessary by the invention much more than compensates for it.—*Pittsburgh Chronicle.*

PROTECTION OF SHIPS BOTTOMS.

A London paper states that a meeting of the United Service Institution held on the 16th May, Mr. Alfred Jeffrey exhibited a composition invented and prepared by him, for protecting a ship's bottom, without the aid of copper; for filling up seems in the deck and elsewhere; and for joining wood. The adhesive qualities were shown to members by experiments. It had been found impossible to seperate by a force of twenty-one tons, two pieces of timber joined in this way, and the invention was considered by mercantile men as of great importance in building ships. Another paper mentions a discovery that coal-tar mixed with one-third its weight of quicklime, and then boiled and used hot, protects iron in a surprising manner from the effects of sea water.

AFRICAN BRIDGE.

In Africa a discovery has been made, not far from Boussissi, of an ancient bridge, spanning by a single arch the stream of the Oued Herbiba, which has given rise to many speculations. It is in perfect preservation; and a comparison of the cement used in its construction with that found in the ruins of Hippona, is said to suggest an antiquity of not less than thirteen or fourteen centuries.

LUMINOUS WORM.

A most singular worm has been found in Hartford county, Md., and deposited in the Baltimore Museum. It is nearly three inches in length, and at night presents the very extraordinary spectacle of an entire luminious body, emitting sufficient light to peruse ordinary characters at the distance of five or six inches.

Original.

THE MERCHANT AND MECHANIC.

A story containing "more truth than poetry."

IN TWO PARTS—PART I.

BY JOSEPH H. BUTLER.

This is indeed an age of puff and vapor,
Also of gas, and steam, and squibs, and rockets,
When madam Science cuts a curious caper,
Discovering all but HOW to fill our pockets.
Man is the fool of circumstances—so,
Just now we 'll let the trite old subject go!

In New York city lived a wealthy man,
(As to the date and year is little matter,)
He got his wealth from ancestors, and ran
His goodly ships across old ocean's water.
In fact, he was a merchant of respect,
Who always thought the POOR deserved neglect.

It was a maxim of this pious man,
That God made gold on purpose for a few;
And thus he went on, as he had began,
Amassing riches—yet he was no Jew.
He knew the kernel to his portion fell,
So let the swinish poor devour the shell.

He said that every man should be content
With his own station, nor attempt to rise;
Because, he argued, it would circumvent
The preordained great order of the skies.
Howe'er about us want or wrong might linger,
He saw (he said) "the working of God's finger."

And further, he declared each son of trade
Should never dare to leave his occupation,
The sacred walks of learning to invade,
Seeing such ways would ruin our free nation;
And instancing some ignorant artisans,
Who introduced some very foolish plans.

At last I almost doubted e'en that he
Believed HE was a rightful son of Adam.
"To earn our bread with toil" was the decree,
He must have been exempt—(I know a madam
Also, who thinks the toiling seamstress mean,
And this is "Vic," the white skinned Negro's queen!)

All now must be European with the fair,
No matter for expense—so it be fashion;
Paris or London "belles" can never wear
A hat or feather, but our ladies dash on
To imitate the splendor of a throne,
I humbly think it *better* left alone!

But to our tale—there was an artisan
Who lived in the same city, wanting nought,
In truth, he was dame "Nature's nobleman,"
His lofty brow portrayed the throne of thought;
Much learning he acquired, yet was not vain,
We shall not quickly see his like again!

Whene'er the work bell rang a truce to toil,
He hied him home, and in some silent place,
O'er learning he "consumed the midnight oil,"
Self taught could the page of science trace;
Having a soul above the groveling kind,
He wisely studied to improve the mind.

Our heroes both were in the prime of life,
(Reader, be kind enough to fix their age—
'T is not my business,) and each chose a wife;
Our merchant's lady was the fashion's "rage,"
Each ball was dull without her smiling face,
And genteel figure, (partly art and lace.)

Our poor mechanic, need I blush to say,
Had by some means contrived to talk of "love;"
His was an honest passion, pure as day,
Sprung from a heart as faithful as a "dove;"
He sued for many months, until one morn
The lady killed her lover's hope with scorn.

"What, sacrifice so much of fashion so?
Stoop thus (for she was rich) to marry him?
Only a poor mechanic! oh dear, no!
First would she let old age her beauty dim,"
She thought, and it exactly suits my rhyme,
She could "stoop thus for nothing, any time!"

So married the rich merchant out of hand,
(Some people say their hearts were never wed,)
However, she kept "company" quite grand,
Then, as if they had wings, the dollars fled!
Until, to save himself from debt and sorrow,
Our gallant merchant was obliged to borrow.

He borrowed much, and speculated more,
Was "whig," or "democrat," as suited best;
Imported most immense from Europe's shore,
Laughed, danced, and drank, and fashionably dress;
His lady did, of course, as best become her,
And so her life was a perpetual summer!

But of our poor neglected artisan,
He did not "commit suicide" for love,
He fretted some, then, as he had began,
Stuck to his trade and books, and looked above,
Daring to deem himself a man—and mind
Should not in every case be quite resigned!

Heaven smiles upon the efforts of the good;
We see him next a helmsman of the state,
Applauded, almost worshipped, for he stood
Firm for the poor in many a long debate;
Ever contending for man's sacred right,
Arresting oft the brandished sword of might.

He 'd chosen a fair woman, without pride,
(That 's somewhat rare, I humbly will allow,
But so it was,) she all her skill applied,
To earn her share, and smooth her husband's brow;
She was not meanly poor, nor very wealthy,
Had *decent* pride, good temper, and—was healthy!

Content with competency, he retired
Unto his "Sabine farm"—a country life
Was that his harrassed mind the most required;
And there, with his fair, amiable wife,
He went his thriving flocks and herds to tend,
With one dear child, and God—the good man's friend.

Time flew, as it has ever done, and will,
For aught we know, for centuries to come;
Men went on striving to get rich, and kill,
As if this world did not possess a tomb.
Pity they do not study Adam's "fall,"
Or have more patience, until death shall call!

There came commercial troubles in the land,
Credit and cash had grown exceeding scarce,
In fact, things were, (as now,) at a dull stand,
I think *pride* helped to render them still worse;
To speak the truth, it is allowed, is fair,
Tho' what I say is neither here or there!

Things being so, our merchant went to sea;
His ship, "Columbia"—France, her destination.
His spouse staid home with friends and family,
To keep its "circle in its elevation,"
Passing her time as single lady quite,
At "the" parties by day, and balls by night.

He shipped some ill got gold for old "De Francy,"
Not without hope of getting thousands more,
For raising cash had ever been his fancy.
With a fair wind he left his native shore,
Blew the light gale, and flashed the sparkling seas,
Our stars and stripes waved proudly on the breeze!

He stood upon the deck, the winds were low,
Nought broke the silence save the watchman's word,
Or when the billows dashed against her bow,
A moment then their rushing sound was heard,
While Night, pale empress, on her silvery throne,
Rode o'er the deep, so desolate and lone!

Oh, but it brings a chill around the heart,
When we behold our native shores retreat
Through the wide waters, where were torn apart
From arms or lips that once we loved to meet!
I have felt more than pen or words may tell,
As once I bade my native land "farewell."

Ten days from shore, the seas ran "mountains high,"
The wind increased, the night grew grim and dark,
No aid had they, while bounding breakers nigh,
Roared o'er the decks of that devoted bark,
Which, thro' the rending seams o, her black sides,
Drank freely in the salt and boisterous tides!

Distress guns flashed, the pumps were plied in vain;
Some prayed, some wept, or tore their scattered hair;
Over their efforts yet the leak did gain,
Leaving them now but little save despair.
The carpenter, poor fellow, had done all,
And they must now on heaven for mercy call!

Some lifted out the boats in frantic haste,
With nought to light them at their hopeless work,
Save when the lightning o'er the watery waste
Glowed out from heaven, kindling the ocean dark,
While the deep thunders loudly rolled on high,
And the dread tempest blended sea with sky!

'T was as the consummation of all time,
(When the strong angel shall the trumpet blow,)
This scene, as that, was awful and sublime,
And fraught as that with every human woe,
To such as tossed amid the howling deep,
Left their sad friends or helpless wives to weep!

Down went the vessel fast, the booming sea
Rolled o'er her foundered decks, with tyrant rage,
While pale distraction rose beneath her lee,
And hope came not their torture to assuage;
Some leapt into the boat, their lives to save,
With these our hero rode the turbid wave.

Then from the wreck went up one awful shriek
To heaven's black clouds, louder than is the roar
Of ocean when the voice of whirlwinds speak;
'T was heard one dreadful moment, but no more,
The wretched sailors found their watery graves,
And the proud old ship sank in the flashing waves!

Meanwhile the boat that had put off before,
Proceeded on her dangerous voyage slow,
Bearing our hero 'mid the deafening roar
Of wind swept billows, none of them did know
Which way to steer; without compass or sail,
They drove at mercy of the howling gale!

A most tremendous prospect lay around,
Far as the eye could reach, the rumbling deep
Uptossed her waste of surges, with a sound
Of death denouncing fury; some did weep,
Others in mute suspense sat gazing o'er
The midnight surge, half deafened with its roar!

OSTRICH.

For the purpose of pursuing the Ostrich, the Arabians train up their best and fleetest horses; and as soon as the hunter comes in sight of the game, he puts his horse into a gentle gallop, so as to keep the ostrich still in sight, yet not to terrify him from the plain into the mountains. Of all known animals that make use of their legs in running, the ostrich is said to be far the swiftest. In the chase, therefore, as soon as the bird observes himself pursued at a distance, he begins to run at first but gently, either insensible of the danger, or confident of escaping. In this situation he somewhat resembles a man in full speed; his wings, like two arms, keep working with a motion correspondent with that of his legs; and his speed would very soon carry him from the view of his pursuers, but that like the hare, instead of going away in a straight line, he takes his course in circles, while the hunters make a smaller course within, relieve each other, meet him at unexpected turns, and keep him thus still employed and followed, till spent with fatigue, he endeavors to hide himself from the enemies he cannot avoid, and covers his head in sand or, the first thicket he meets. Sometimes, however, he attempts to face his pursuers; and though in general the most gentle animal in nature, when driven to desperation, he defends himself with his beak, his wings and his feet. Such is the force of his motion, that a man would be utterly unable to withstand him in the shock.

BLUE BEARD AND HIS CASTLE.

The ruins of the Chateau de la Verriere, on the banks of the Erdre, in the department of the Loire Inferieure, are, according to the tradition of the neighbouring peasantry, those of the castle of the celebrated Blue Beard, the hero of the well known nurse tale. This formidable personage, who is not altogether a creation of the fancy, was Giles de Retz, who lived in the reign of Charles VII. and was a vassal of John V. Duke of Bretagne. He was tried at Nantes on suspicion of having destroyed a number of children who had been seen to enter the castle, and were never heard of afterwards. The bodies of several were afterwards found, he having caused them to be put to death to make use of their blood in writing charms and forming incantations to raise infernal spirits, by whose means he believed, according to the horrible superstitions of the times, that buried treasures would be revealed to him. On his trial he confessed the most horrible acts of atrocity and was sentenced to be burnt alive; but the duke caused him to be strangled before he was tied to the stake. This execution took place December 25th, 1440, and a detailed account of it is still preserved in a MS. in the archives of Nantes.

As no man can expect a continual train of prosperity, he ought not to apprehend a constant adversity.

What a sculpture is to a block of marble, education is to a human soul. The philosopher, the saint, and the hero; the wise, the good, or the great man, very often lie hid and concealed in a plebeian.

ALBANY, SATURDAY, JULY 16, 1842.

ORIGIN AND PROGRESS OF THE USEFUL ARTS.

There is no regular history of the useful arts, with the exception of Beckmann's, and even that is nothing more than a collection of notes on various subjects, without system; valuable and thorough, but very limited in its range of subjects, and unfortunately for us, not now within our reach—probably in the hands of some kind borrower, who it is hoped, when he has no further use for it, will be so obliging as to return it to us, the disconsolate owner. Such an imperfect account as we can give, we have gleaned from various sources in the course of a pretty extensive reading, and therefore our readers need not wonder if they discover some things that have fallen under their own observation before, as well as some things which have not. No man can invent history, and so with us, we have no scope for originality.

An account of the progress of the useful arts will afford evidence, distressing to a certain class of moralists, because it tends to show that the wants of the human race are growing. Growing in number and extent they certainly are, and we do not see that man can do better than to let them grow; for these wants, in whatever form they come, are faithful friends, driving man to activity both of mind and body. No tribes of the human race, with which we are acquainted, will work with body or mind, just for the sport of the thing, and we think the moralist should bless the necessity which drives man to exertion, and forces him as it were, to assume that dominion on earth, which it was clearly intended by his Creator that he should exercise. It is evident that most of the luxuries which at their first introduction were looked upon with an evil eye, soon became nothing more than comforts; stockings, for example were doubtless thought very effeminate when first invented; but as invention put them within the reach of all, they became necessary comforts, which no man was disposed to rail against, because they could not well be dispensed with; and which, instead of tending to enervate the frame, do actually increase its power of physical endurance and exertion. It is sufficiently clear, that although the wild animal *does* endure more hardships than the domesticated, the latter *can* endure far more from labor and exposure than the other.

As this matter is not generally understood, and what the error is, may be explained by an illustration. When Mr. Tyrwhit died, in an expedition into Africa, the negroes took an inventory of his effects, with a view to restore them. They were sorely puzzled to make out a description of the various articles, and, in utter despair, set down a couple of tooth brushes as "two scrapers made of pig's hair," and his spectacles as "two looking glasses for the nose." Now, one of the sages, who lament our wants are increasing, would say, how fortunate those Africans, who know not the want of hats, spectacles and brushes! But they make a pretty obvious mistake. The Africans know the *want* of these things, as well as we, but they do not know how to supply it, as we do; so, the balance lies on the side of civilized life. If civilization develops new wants, it supplies for them. The common prejudice is, that we should endeavor to dispense with the thing wanted. When the thing wanted is not by any means to be had, as in the case of the child crying for the moon, it is clearly the best way, and in fact almost the only way is to strive to do without it; but when it is a want that can be supplied without creating other wants, it is best to make exertions to supply it; for example, the backwoodsman who weeps in vain attempts to read by his pine torch, would do well to work a little longer and harder for the means of buying candles, if they are within his reach. Yet, it is astonishing to see what slender thanks are given to any one who endeavors to increase the comforts of the human race. For instance, Jonas Hanaway, who first appeared in the streets of London with an umbrella, though a respectable and popular character, was looked upon with a feeling very similar to that with which an antient namesake of his was regarded, and was beset in such a manner that the instrument of defence from the rain saved him from a more-to-be-dreaded pelting of earthly hail, and he went his way rejoicing to escape without a broken head.

What effect our wants have in quickening the mind to action may be seen in the advance of the arts of life, compared to those of taste. When the latter have reached a certain height they stand still, and any great effort retains its pre-eminence for centuries. The Parthenon, in architecture; the Venus, in statuary; and the Illiad, in poetry; are instances. Meanwhile, the arts of life have no rest in their advancement; every year throws the skill and success of its predecessor in the shade; some new and unimaginable discovery is perpetually eclipsing all who have gone before it, and by a pretty exact inverse proportion, Pop. Emmons and Edgar A. Poe are to Homer as the arts of Homer's day are to those of our own.

But, waiving these general remarks, we will go on to give some account of those arts by which our imperative wants are supplied. We place food first in order, because, in *our* estimation, it is the most essential; many have contrived to live without houses, and even without clothing, without suffering a great deal from delicacy or climate, but we have never heard of a people subsisting without food. It is, then, decidedly the most momentous of the arts of life, and it is but justice to our race to say, it is generally treated in practice with all the attention and solemnity the importance of the subject, in the abstract, deserves.

One of the earliest arts in this department was that of making bread, as appears from the scripture account of Abraham. It does not appear that flesh was eaten before the flood, though the division of animals into clean and unclean had taken place before that time; and the teeth and stomach must have been carniverous from the beginning, unless, in accordance with Dr. Darwin's theory, we allow that long and faithful practice has brought them to their present form. Corn was at first eaten without any preparation while it was yet soft in the ear; and without any other preparation than grinding it in a mortar, when it became hard. From the mortar to the first rude mill the change was not great; and the same mill which was in use in the days of the patriarchs is not yet out of date in many parts of the east. It was composed of two stones of a circular form, of which the upper had its lower surface concave, to fit the convex upper surface of the lower stone. In the upper stone was an upright piece of wood with a cross stick at its top. Two women kneeled down, and with their left hands kept the stone in motion, while with their right they poured the grain into a hole in the top. The flour fell out at the sides, and was passed through sieves of rushes. That which was not sufficiently fine was put into the mill again.

The progress in the construction of mills, &c., will form material for the next and succeeding papers on this subject.

SHIPS OF WOOD AND IRON.

The subject of naval constructions is becoming every day a matter of greater interest to this nation. The late debates at Washington on the subject of the navy: the strictures which have appeared from every quarter of the country on these debates, commenting on the duty of congress in reference to this great arm of the government: the extreme sensibility of the public mind on every subject connected with the natural concerns of the *second maritime nation* of the globe; all shew the immense interest attaching to all matters connected in any way with its navigation and commerce and call upon every good citizen to contribute his mite to the stock of information which the rapid advances of the age in science and knowledge are accumulating in this department of art.

With this view we republish the following judicious and practical article, from the London Civil Engineer and Architect's Journal, on Ships of Wood or Iron—with the intention to follow it up with an account of the *Annesley System* (patent) of ship building, known in this city as the invention of our fellow citizen whose name it bears, and which has been practically tested by the construction of more than 25 vessels of from 3 to 300 tons.

It is the *third plan* referred to by the author of the article below, although he was probably unaware of its origin, for the vessel alluded to as built at Rochester (England) was a modification of Mr. Annesley's plan and was done in consequence of his having built vessels in England shortly before. This was in the infancy of the invention which has since undergone essential changes and received many important additions.

The opinions of men eminent as naval constructors, navy officers, and men of science have been repeatedly given in favour of the principle of construction adopted by Mr. Annesley. A number of the English steamers have, as mentioned in the article we copy, recently adopted the plank plank plan partially and with great success.

Our correspondent who will furnish the article on the Annesley system has practically and thoroughly proved its value, and we hope through the medium of our paper to draw the public attention to it, so its merits may be understood and investigated.

Remarks on the relative advantages of the employment of wood and iron in the construction of ships have appeared at different times, in journals devoted to inquiries relative to subjects of this nature, but a spirit of partizanship has been commonly displayed by the respective advocates of wood and iron in favour of their own views. In an endeavor to avoid this charge, it will be expedient to advert in the first instance, to the different modes in which wood can be employed in ship building, especially as the advocates of iron are in the habit of referring to the defects of ships

built of timber, which are capable of being obviated by a different system of construction.

The relative merits of wood and iron for this purpose will, I apprehend, come more fairly before the public by an exposition of some of the plans that may be adopted in the construction of ships of wood; and it appears to me that three well marked systems may be distinguished. 1st. The common plan of timbers, whether framed or single, separated by spaces from each other, whose principal connection with each other, arises from an external and internal series of planking. 2nd. The plan used in the English dock yards, of timbers wedged up solid, and covered by an external planking, (timber placed close together I conceive would be found to be a better method.) 3rd. A plan of constructing vessels of any size by two or more connected series of planks without timbers; this method has not been extensively used. Clinker-built boats belong to this third system, and perhaps also iron vessels, inasmuch as the plates of iron of which they are formed are of far more importance than the iron ribs, which occupy the position of timbers.

The advocates of iron have, I apprehend, by no means exaggerated the defects of ships of the common construction, in which the connexion of the timbers with each other is extremly imperfect, even in the best built merchant ships, and the safety of the largest vessels is dependent on the security of the fastenings of the butts of a four inch plank.

I consider these defects are so fatal, that no increase of strength or improvement in workmanship can more than pallinte them in a greater or less degree, and I propose to abandon any reference to these vessels, and at once admit their inferiority to vessels constructed of iron, provided the latter are made of sufficient strength.

A large proportion however of the present enormous annual loss of merchant ships seem to have been sufficiently traced to defective methods of construction, and to the facility it affords in covering the defects of cheap ships; still the causes that tend to foster the continuance of the present system are subjects foreign to the tenor of these remarks; the fact that the rottenness of the timbers can be concealed from casual inspection, is sufficient for our purpose It has been urged that unless spaces are provided between the timbers, for the accommodation of water from leaks, that it would rise in the vessel and spoil the cargo. This argument is founded on the assumed necessity of leaks, but it affords proof of their frequent occurrence in vessels of the usual construction.

The rapid destruction of timber by the united operations of wet, heat and filth, and the generation of foul air from these causes, will not be denied; and in addition to its weakness the rapid determination of the frame of the vessel, from the above causes, seems an equally fatal objection—though exceptions may occur owing either to care or accidental conditions.

The *second system* of ship building with timbers wedged up solid, has been in use for a considerable period for ships of war, and the success that has attended this plan has been amply proved by the accounts of the escape of different vessels, that have since its adoption been driven ashore and got off again, in many instances without injury, and in other cases damaged to such an extent as would have insured the total loss of vessels of the common construction; for instance, the *Pique* lost a large portion of her keel, and in some places the whole of the garboard strake, and a part of the floor timbers were ground away by the rocks of Newfoundland, and yet this frigate crossed the Atlantic without a rudder, under circumstances, it must be admitted, of some anxiety to the officers and crew.

For merchant ships I should propose to use the same weight of materials as are now employed, the outside planking remain without alteration, but the quantity of wood in the ceiling would be added to the width of the timbers, and in case it was insufficient to fill up the spaces between the timbers, the depth of the latter must be lessened to make up the deficiency.

Under these circumstances the timbers would be about the thickness of the outside planks, and being placed close together, a good means of connexion might be obtained by large dowells or coaks, so as to produce a mutual dependance on each other, and so that any pressure on the outside would exert a more regular strain on every part. A vessel constructed on this principle would be an irregular cask, and when caulked inside and outside would float without planking; and by the addition of the latter, a frame of great stiffness, and equal strength and thickness in every part would be obtained, on which one side of every piece of wood used in its construction would be visible, and would allow an examination to be made of its state with great facility. The other sides of the wood would be preserved from wet as long as the fabric of the vessel remained sound, and the caulking was attended to It is obvious that a greater inside width of seven or eight inches would be gained in these vessels, and no loss of space would accrue if it was occupied by battens to admit of water accommodation for the leakage, and the prevention of injury to the cargo from the escape, until at least the present advocates of the assumed necessity of leaks in ships, became convinced of the small prospect of their occurrence under common circumstances in vessels so constructed.

It is true no provision will afford security to vessels on rocks among breakers, but such situations afford the best test of the merits of different systems of ship building, by the time each vessel is found capable of resisting these effects.

Numerous cases will occur where life is dependent on the time the vessel holds together, but the partial saving of the cargo may be considered objectionable by ship owners, among whom the advantages of a total loss are well understood. Opinions on these points are of little value, we must wait for evidences from wrecks under different conditions.

The scantling proposed for merchant ships would, I apprehend, be not quite so heavy as that in use for ships of war of equal size; at the same time, it is probable that the strength of timbers placed close together, except that of the dockyard plan of timbers wedged up, to such an extent that a greater strength may be perhaps obtained at a smaller cost. Plans of this nature are obviously only suited for good workmanship and good materials; but it ought to suit, for less insurance premiums, whenever an inquiry on this subject is properly conducted, and explanations are afforded to insurers of such a nature, as shall be fully understood.

The *third plan* referred to, requires similar conditions of timber and workmanship, but it has not been extensively adopted. Ten or twelve series of inch planks were employed many years ago, in a 500 ton vessel built at Rochester, but I conceive three or four series of two and a half to four inch plank, according to the size of the vessel, would be found a more convenient method of construction.

Several of the Gravesend steamers of 150 feet in length have been built of three series of one and a half inch planks, and they have run for four or five years, and are now said to be as sound as when first constructed, at least, such was the case with the Ruby, when opened for the purpose of lengthening the bow to increase her speed.

This method however requires further trial, especially at sea, before any decisive opinion can be given on its comparative merit; it is favourable to soundness, as the necessity of sawing the wood into planks admits of the certain selection of good materials, and would afford great facility in seasoning timber properly. While the expense of selection would in some degree be lessened by the conversion of the rejected planks to inferior purposes, or by working it up in inferior or cheap craft, perhaps forriver use. The increase of cost would not answer unless it was accompanied by a proportional increase of durability, and perhaps the general opinion would be in favor of the latter result, as a necessary consequence of the selection of good timber.

The launches used in the navy have for several years been made on Johns' plan, of two series of planks crossed diagonally, their weight is about three-fifths of the boats of the old construction, and their durability has been much increased. The Gravesend steamers are built with two similar series of crossed planks in lieu of timbers, covered with an outside planking in the common mode, the whole well fastened with copper. In large vessels perhaps a ceiling connected in the same manner might be deemed advisable: at the same time it seems probable that a greater strength would be obtained by a less quantity of timber in the third than in the second method of construction proposed. Clinker built, which belongs to this class, in which the principal strength depends on the planking instead of the timbers, seldom exceeds 100 tons in size, and are usually of a light scantling; their great durability is well ascertained, provided they are kept from the ground, in which case from the thinness of the single part of the planking, holes are easily knocked in their bottoms.

The introduction of these methods of constructing timber ships is not likely to be effected, except by the nearly total destruction of the present trade in ship building by the more general adoption of iron vessels, and the interests of humanity will cause the earliest occurrence of this result not to be regretted. Nothing perhaps but the severe pressure of iron competition will induce the present race of ship builders to turn their attention to the means whereby greater strength, security and durability may be given to wooden ships; eventually perhaps its greater elasticity may obtain a preference.

Prime cost undoubtedly will form a principal element in the approaching competition; at present iron vessels are often built too cheap, or in other words too slight; the error may be, and I believe has been remedied. Innumerable questions will arise relating to the elasticity, strength, and durability of wood, as well as its quality; and also in reference to the destructive action of salt water on iron, the strain on the rivets, &c. &c., which can only be answered by experience.

To a spirited competition between wood and iron I look for the improvement of vessels of both materials. Recently I have met with parties who being engaged simply as owners on the proposed construction of a steam boat, in consequence of the difficulty in the choice of wood or iron, have found it necessary to institute an inquiry respecting their relative merits in ship building; these parties but for the difficulty of selection, would have gone on in the good old jog-trot way of supposing, that British ships of the old construction were perfect specimens of the art, and would have patiently submitted to the present rates of insurance, as founded on the average loss, deduced from defective ships. The spirit of inquiry once roused among owners of shipping, will I trust lead to results as yet scarcely anticipated.

It matters little to the country whether wood or iron eventually obtains the preference; if British oak is abandoned it will be only superseded by British iron, and the inhabitants of our land ought to be satisfied if the latter will uphold the character of the navy as well as the former has done.

At present I consider the question of relative superiority as undecided, and though disposed to admit the inferiority of timber vessels of the common construction, yet the advantages of iron may not exceed that due either to the methods of construction adopted in the navy, or in the Gravesend steam boats. The latter method is perhaps best adapted for small, and the former for large vessels. Moreover, we want the evidence likely to be afforded by the wreck of the largest iron steamers, for the formation of an opinion respecting their powers of endurance under the breakers of a rocky shore, or a sand bank.

In regard to the relative advantages of the two plans of ship building proposed for the merchant service, the method adopted in the navy has received the stamp of experience, and the evidence is conclusive in its favor. The 500 ton vessel built of planks before alluded to, was driven ashore in a heavy gale under Mount Batten, Plymouth sound, when loaded with ordnance stores, in company with ten or eleven other vessels, all of which became total wrecks; she afforded an almost solitary instance of a vessel saved, when ashore on that point, and she is reported to have rebounded from the rocks for a short time like a cask, until a hole was knocked in her bottom; after the gale she was got off, and was repaired at a moderate expense, and proceeded on her voyage to the East Indies.

I should also be inclined to the opinion that a greater strength will be obtained with a less quantity of materials, by means of several series of planks than by close timbers and outside planking, but the latter plan seems to afford greater facility for repairs. In conclusion, I would remark that it is my object to assert the possibility of the introduction of great improvements in the construction of vessels of wood, without any increase and perhaps at some reduction of cost, and I wish to induce parties engaged in ship building to advert to the fact, that the best portion of their business, the construction of steamers, is rapidly passing out of their hands, and that unless sailing vessels are rendered stronger, safer, and perhaps lighter, this portion of their trade may follow, as the establishments for building iron vessels are increased, or at least such a depreciation of prices may occur as will be equally ruinious to them.

At the same time I must acknowledge that great improvements in regard to strength have been adopted in many of the larger steamers, in some instances perhaps to the full extent here advocated, at least in the engine room; similar principles might be adopted in the fore and after bodies with lighter timbers, and hence a less strain would be thrown upon the midship body in passing over heavy seas. It is their general adoption that I would urge, and I cannot but express my conviction that steam ships of the largest class yet made, may be constructed to bear the winter seas of the Atlantic, by a better disposition of the timbers employed in their construction.

MAINE MECHANIC'S CONVENTION.

A convention of the mechanic associations of the state of Maine is to be holden on the 10th of August next, at Bangor. The mechanics of that state, as we have before remarked, have many well organized societies, with libraries, reading rooms and lectures. They are capable of being made of incalculable benefit, not only to the active, business men of the day, but more especially to the younger members, who are coming upon the stage. We hope to see the mechanics of other states awake to their interests after a while, and moving for their intellectual and moral elevation as a class.

THE HOG—STEARINE.

"And the swine, though he divide the hoof and be cloven footed, yet he cheweth not the cud; he is unclean to you. Of their flesh shall ye not eat, and their carcass shall ye not touch."—*Leviticus* x. 7, 8.

We do not mean to jeopard any one's nerves by placing so uncouth a word at the head of an editorial. This is premised, because some people of delicate sense and refined taste, although they may have a savory tooth for a spare rib, will nevertheless recoil at the peculiar odor of a pigstye, and faint at the sight or name of so vile a creature as we have chosen to make a *subject* of. Is it not a little singular, then, that the flesh of this animal should have become so customary an article of food, and that we should ridicule the Jew for his abhorrence of it? If the passage we have quoted above be not wholly overlooked, there is no reason to marvel at the perverse appetites of the sons of Abraham, since their religion interdicts the eating thereof. What then was the hog made for? is the very natural but rather unphilosophical inquiry. *That* has just been discovered. It was left for this great mechanico philosophical age to snatch that devoted animal from the all devouring teeth of man, and appropriate him to his right use! It is accordingly proposed to make *blubber* of him, and consume his oil in the lamp, instead of elaborating it in the human stomach. The *Hoosiers* have learnt that lard will produce the best sperm oil, and it has been calculated by the commissioner of patents, that if all the swine now in the country were converted into sperm, the product would be *five times greater than that of the whale fishery!* We should then be able to give light to the whole of Europe and America, and our hogs would make a greater *shine* before the eyes of men than any other beast of the field. In fact there are already three lard oil factories in Cincinnati alone, which consume daily from twelve to twenty barrels of lard, and by reference to the 22d No. of our paper, page 174, some statistics in relation to this important and growing manufacture will be found.

It is impossible to say how long it might have been before mankind would have sought out this strange invention, had not the hogs of the west become a great *bore* to the inhabitants thereof, and their flesh become more plentiful than was *meet* for the mandibles of man—omnivorous man, whose gluttony creates tumefaction, and whose bibulous absorptions beget a purgatory of lumbago! We may rejoice that it is no longer necessary for a part of our race to peril their lives upon the boisterous ocean to provide light for those who pursue their peaceful occupations at home, but that we may grow and manufacture it at our doors, without the risk of a hair of the head. The monsters of the deep may also rejoice that they will be left to stretch their oleaginous pronderosities upon the ocean's bosom, undisturbed by the harpoon of the whaler, and blow and spout with more safety and freedom even than a congressman—for with the whale "*honor* is a mere escutcheon."

SCHEMING vs. LABOR.

We commend the following, from the N. York Tattler, to our readers, both on account of its truth and the direct bearing which it has upon some of our remarks in another part of our paper, Again we ask our readers, is it not too true? Does not the evil adverted to exist? and now, what is the remedy? Let us meet in convention, organize town and city associations, and, united in firm, unwavering phalanx, achieve our second freedom, from the thrall of prejudice. Up, up and be doing. Mechanics, say the word and the work is done. When shall it be—now, or never? Let there be no cowards, no sluggards in the camp.

It seems to be the studied interest of thousands of families in this country, to look upon labor—the earning of a living by manly toil—with disgust and contempt. A principle is infused among our citizens, far and wide, that the industrious mechanic or farmer holds no comparison in society with the gentlemen of law, physic, or divinity.

This is a baneful feature pervading our land, and the consequences are exhibiting themselves now in a shape that puts in jeopardy the attachment to the institutions of the country. The line of distinction between the Pearl street clerk or the lawyer's copyist and the industrious mechanic is very great. The former move in circles in which men of independence figure, and have externally as much enjoyment and attention as the richest individuals. On the other hand, the mechanic or laborer is doomed to a certain sphere, out of which he cannot step with inpunity. His social privileges are limited because he wears a coarse coat; and let him be ever so honest, ever so good a citizen, his trade prevents him obtaining *caste*

This is all wrong. This growing evil of countenancing the scheming and lazy, will be eventfully of very destructive nature. The crowding of the professions, too, is equally of an unhappy tendency. A British writer speaking on this head very eloquently remarks, that thousands have died of broken hearts in these pursuits, thousands who would have been happy behind the plough or opulent behind the counter; thousands in the desperate struggle of thankless professions look upon the simplicity of a life of manual labor with perpetual envy; and thousands, by worse fate still, are driven to necessities which degrade the principles of honor within them, accustom them to humble modes of obtaining subsistence, and make up, by administering to the vices of society, the livelihood which was refused to their legitimate exertions.

How is this state of things to be avoided, and how can things be made to preserve their true balances? We think in no other way than to raise the social characters of the laborer, the mechanic and the farmer. This once done, and half the battle would be won, for the population of a country is never so indolent as it is proud. The mechanic who conducts himself with propriety and is decently attired, has as great a right to a place in good society as a professional man, and with regard to important affairs, such as the condition of the country, a much better right. What is it that makes country? Is it not labor? What are the long winded, written disquisitions of a law question worth when put beside an acre of good fat land, with the staff of life waving over it; or what are the far stretched inventions of a Brownson worth when compared with the results of the manual labor of a Burritt. We could well do without the lucubrations of many mens' brains, but we could hardly spare the labor of the mechanic or the farmer. Let us have less foppery and emptiness and more solid society in their place.

DEPRESSION OF MANUFACTURES.

We undertook to keep a register of the large manufactories and mechanic establishments which have stopped wholly or in part; but it is scarcely possible to keep pace with them. The news is disastrous from all points, both for employers and the employed. Those districts which have been usually the most prosperous, as might be expected, feel the depression the most severely. There is room for hope, however, in the prospects of abundance from the fields of the farmer. The husbandman wants laborers. If some of the surplus hands of our workshops would turn out and assist in bringing in the harvests they would find it the best remedy for the evils which beset them that they could possibly resort to. A correspondent of the weekly *Journal of Commerce* says: "Please say to the laborers in your city wanting employment, that now is a very busy season among the farmers on the North river, and employment can be had, particularly for those accustomed to farm work." They would find, on returning to their trades in the fall, a decided improvement, *corporeally* at least. It is some consolation, the prospect that there will be enough to eat, and at cheap rates.

WESTERN LITERARY MESSENGER.

We have received No. 1, vol. 2, of this beautiful and well filled weekly, published at Buffalo, in this state, by J. S. Chadbourne & Co., at $2 per annum. It is elegantly printed, in large quarto; is well filled, and argues well for the literary enterprise of the west. It has our warmest wishes for success.

SYNOPSIS OF NEWS, ETC.

Died, in Hampton, Washington county, in this state, on the 14th of June last, SAMUEL BEMAN, Esq. in the 87 year of his age.

Mr. Beman was one of those glorious spirits who stood up manfully in the day of peril and darkness, in his country's defence. He was by the side of Ethan Allen, when, in the name of the "Great Jehovah and the Continental Congress," he demanded the surrender of the fortification of Ticonderoga. He died very suddenly at his house in Hampton, where he has resided for more than fifty years.—*Albany Citizen.*

From the semi annual report of the chief engineer of the fire department, there have been 11 fires and 9 alarms during the last six months. Amount of property destroyed $5,019—amount insured $3,629.

The old printing press worked in London by Doct. Franklin, which we announced some time since as having been presented to a Philadelphia society has arrived in New York in the packet ship New York from Liverpool.

The book publishers in England have adopted the American plan of issuing novels in the form of newspapers, at the price of one shilling four pence sterling a novel. Out of fifty-two works published in London, at this low price, twenty-six are the productions of American authors.

On Sunday last, says the Stamford Advocate, a thunderbolt fell upon the church in North Stamford, at the moment the Rev. Mr. Fuller, assisted by the Rev. Mr. Buffet, was administering the sacrament to his people. The electric fluid entered the chimney of the building, followed the stove-pipe down to the elbow, nearly over the aisle, when the pipe was burst, and both of the Rev. gentlemen were stricken to the floor—no other individual of the congregation was injured. Mr. Fuller soon recovered from the shock, but it was some time before Mr. Buffet exhibited any signs of life. He is now however doing well.

A chalybeate spring has been discovered near Millsborough, Del., which discharges five-hundred gallons of water in an hour.

Sugar can be manufactured from India corn at the rate of 800 to a 1,000 lbs. per acre.

'Tis said the water in the croton pipes will rise 116 feet above the level of tide water—about 110 above the level of the Battery's Bowling Green. The danger from fire will be greatly diminished by the construction of these works.

The city of Rochester contains 20,000 inhabitants. In 1817 its entire voting population consisted of 32! The increase is unparalleled.

It is said that the French discovery ships have introduced, from the south seas, a new vegetable, resembling the cocoa nut, but much smaller. When the outer shell is removed, the interior presents the appearance, and possesses all the properties, of the finest ivory. In the manufacture of articles to which its size is adapted, it is supposed that this vegetable product will entirely supersede the more costly tooth of the elephant.

The Rev. Dr. Yore stated at a late meeting in Dublin, that he had attended at least 120 criminals to the scaffold, and every one of them declared that intemperance was the means of bringing them to this end.

The Chicago American mentions the arrival in Chicago of 14 bbls of barley from Green Bay, raised from seeds brought from Hudson's Bay. The grain is unusually large and plump, and it is said, comes to maturity in 8 weeks from the time it is sown—the usual duration of summer at Hudson's Bay.

The aggregate circulation of all the free banks in the State of New York, amounts to $3,639,044, which is secured by stocks, bonds and mortgages, amounting to $4,323,063—some of which are much depreciated.

The harvest in Virginia is over and the crops are superior to those of the last five or six years.

PATENT AGENCY.

THE UNDERSIGNED, for the last three years Examiner in the Patent Office of the United States, has established an agency at Washington City, to accommodate persons desirous of obtaining patents for improvements in the useful arts.

As it is important to Patentees that their business should be attended to with promptness and fidelity—their interests frequently suffering from the delays growing out of the return of their papers for amendment, when drawn up by themselves or persons not acquainted with the business—it is evident that a great advantage will be derived from the employment of a proper person in the first instance.

An experience of three years in the Patent Office, during which period hundreds of inventions have been examined by the undersigned, has fully qualified him, he thinks, to serve as a Patent Agent, with the greatest possible advantage to those who may favor him with their patronage, as from his acquaintance with the forms of the office and inventions already patented, he will be enabled, in drawing up the papers of applicants, to avoid whatever might delay or prevent the issuing of a patent. His experience will enable him also to furnish information to persons respecting the novelty of their inventions, before they are submitted to the office, so that they may avoid the expense attending unfavorable applications for patents.

In every thing relating to his profession, embracing the application of chimistry to the arts, improvements in surgical instruments, &c., the undersigned will be able to render important assistance to inventors.

Having established agencies at London and Manchester, in England, he will be able to secure patents in that country, and prepare all the necessary papers with the greatest promptness and dispatch.

Inventors need in no case subject themselves to the expense of visiting Washington, as by forwarding to the Patent Office a model, where the invention is a machine—or a specimen, where it is a composition of matter—and sending a short description explanatory of its nature, &c. to the undersigned, all the necessary papers and drawings can be prepared and sent to the applicants for their signatures.

Models and papers can be forwarded to the Patent Office free of expense, by being delivered to the Collectors of the different ports. In the city of New York, the undersigned has an agent—M. Levy, 65 Maiden Lane—who will immediately forward by railroad all models and papers placed in his care for this purpose.

An Architect and Engineer, employed for the last four years as a Draftsman in the Patent Office, will attend to the execution of all the necessary drawings required by the undersigned in his business. Those who may perfer to draw up their own specifications, can have their drawings executed by him with the greatest accuracy and on the most reasonable terms.

Communications *postpaid*, addressed to the undersigned, will be immediately attended to In all cases where information is required, a fee of five dollars must be enclosed.

T. W. DONOVAN.

AGENTS WANTED.

Several active and enterprising Agents wanted to procure subscribers for a monthly work and this paper. Apply personally at this office, or address *post paid* the publisher of the *Mechanic* at this place.

Subscriptions will be received by the following persons, to whom money may be paid.

M. W. Spencer, 42 Ann Street, New-York.	J. B. Loak, Utica.
James M. Edgerton, West Troy.	G. H. Osborne, Poughkeepsie.
William Burton, Cohoes.	Luther Moore, Rochester.
Jonas B. Gibson, Waterford.	G. W. Redding, Boston.
Graham, Dean & Co., Rome,	W. E. Russel, Schenectady.
P. P. Cleveland, Skeneateles.	Levi Willard, Troy.
T. S. Hawks, Buffalo.	R. Proudfit, Jr., Newburg.
Benj. Holt, Little Falls.	G. W. Ingalls, Greenfield, N.Y
	Z. N. Graves, Troy, &c.

NEW YORK STATE MECHANIC,

A weekly paper, devoted to the interests of Mechanics and Manufacturers,

IS PUBLISHED EVERY SATURDAY,

By JOEL MUNSELL,

No. 58 State Street, Albany,

At $1.50 per annum in advance.

MISCELLANY.

Original.

BEWARE THE BOWL.

Beware the bowl! though rich and bright,
Its rubies flash upon the sight,
An adder coils its depths beneath,
Whose hue is woe, whose sting is death.

Beware the bowl! though round it twine
The wreaths from Pleasure's rosiest shrine,
The thorn is lurking mid the bloom,
That strews the entrance to the tomb.

Beware the bowl! though wit may gleam,
And song sound loudly o'er its stream,
That gleam will change to lightning glare,
That song will cease in mute despair.

Beware the bowl! by all the woe
That lies within its poisoned bow,
By all the hopes that cheer the soul,
Through life, in death, beware the bowl!

CARLINI.

The countenance, (says Zimmerman) may wear the appearance, not only of composure, but even of gaiety, while the soul is inwardly suffering the keenest anguish of unutterable woe. The celebrated *Carlini*, a French actor of great merit, and in high reputation with the public, for the life, whim, frolic and vivacity, with which he nightly entertained the Parisian audiences, applied to a physician to whom he was *not personally* known, for advice; and represented to him that he was subject to attacks of the deepest melancholy.

The physician advised him to amuse his mind by scenes of pleasure, and particularly directed him to frequent the Italian comedy, "for," continued he, "your distemper must be rooted indeed if the acting of the lovely *Carlini*, does not remove it."—"Alas," exclaimed the unhappy patient, "I am the very *Carlini*, whom you recommend me to see, and while I am capable of filling Paris with mirth and laughter, I am *myself*, the dejected victim of melancholy and chagrin."

A PROMPT REPLY.

An Arabian philosopher was once at the court of a certain king who was as much distinguished for his injustice as his despotism. The king agreeably to his character was desirous of irritating the sage by some of his insults. To this end he positively affirmed, that in the infernal regions was a *mill for the purpose of grinding the heads of the learned*—and then demanded of the venerable philosopher if it were not so. He in his turn, replied with a firmness and dignity worthy the highest eulogium, "*Yes! but it is the blood of tyrants that makes the mill turn.*"

MERRY TALES.

A precher in a pulpit which preched the word of God, amonge other matters spoke of mennes soules, and say'd that the soule was so subtyll that a thousande soules might daunce on the space of the nayle of a mannes fynger. Among which audience there was a merry conceited fellow of small devocyon that answered and sayde thus: Mayster Doctour, if a thousande soules may daunse on a mannes nayle, I praye you then where shall the pyper stande?

BEAD MANUFACTORY.

Went to see the Manufactory of Beads, for which Venice has been famed for 400 years. We saw sheaves of glass waving like corn, in the laps of women, who sat assorting the vitreous harvest according to its size. In another stage, a number of men with shears were clipping the long threads into very small bits, the elements of the beads. In the next room lay fragments of 300 colors, and patterns innumerable, filling forty or fifty baskets. A very distressing part of the operation was to be seen below, where, on approaching a long shed, open on one side to the air, and glowing with thirty fires in all its length, stood a number of poor wretches, whose daily and hourly employment it was, to receive the bits of sifted glass, cut as we had seen above, and melt them into beads, by means of charcoal and sand, in the midst of these dreadful fire blasts, which they were constantly feeding, and within three feet of which they stood, streaming at every pore, stooping to draw out the caldron and pour its contents upon a tray, which they then, in this state of their own bodies, drag forth into the air. A new copper of cold materials already awaits them, which must be thrust forthwith into the furnace, and a *cool* superintendent is there to see that there is no remission! The turning, the feeding, renewed sweat, cease not till night comes to put a pause to miseries which are to last for life! The galleys is a joke to this work. The workmen all die young. We never thought of *beads* as such an expensive luxury before. A sixpenny necklace may cost the life of the artisan! *Look at a rosary in this light!*

SPINNING WHEELS.

A glorious spectacle is described by Bradford, in his "History of Massachusetts for 200 years"—one of which it may safely be said, "we ne'er shall look upon its like again." He states that in 1753, on the anniversary of the society for promoting industry, three hundred females of Boston assembled on the common with their spinning wheels. They were neatly attired in cloth of their own manufacture, and a great crowd of spectators collected to witness the scene.

A HINT TO BLACKSMITHS.

The cutting of bars of iron or pipes, with a chisel, is a laborious and tardy process. By the following mode the same end is attained more speedily, easily, and neatly—bring the iron to a white heat and then, fixing it in a vice, apply the common saw, which, without being turned in the edge, or injured in any respect, will divide it as if it were a carrot.

HOGG'S TALES.

A great deal of fun has been perpetrated on *Hogg's Tales;* the last we have seen is the following:

"Are you fond of Hogg's Tales," said a rather verdant miss, to a shepherd. "Yes, I likes 'em roasted, wi' salt on 'em," was the response. "No—but I mean—have you read Hogg's Tales." "Noa," said the bumpkin, "our Hogs are all white or black—I doant think there is a red one among 'em."

SCRAPS.

A noble heart will disdain to subsist, like a drone, upon the honey gathered by other's labor—like a leech, to filch its food out of the public granary—or, like a shark, to prey on the lesser fry, but will one day or other earn his subsistence.

"I would rather *not* take a horn now," said the loafer to the mad bull; but the bull insisted on *treating*, and the loafer got quite *high*.

I fear my house will be shaken down' muttered a mouse, as a cathedral's walls rocked with the throes of an earthquake.

Dr. *Skipp* recommends a *hop* poultice for a *jumping* toothache.

"Cut close," as one blade of a pair of shears said to the other.

Crack at it again, my good fellow! ejaculated a fly that had lit on the folds of a thunder cloud.

"Put on some more steam, I'm in a hurry!" as the snail said ven he crept into a rail road car.

Why is a certain popular belle like the hub of a cart? Because she is surrounded by felloes.

A person boasting of his remarkable good sight, said: "he had often seen an eagle when it was out of sight."

A woman's heart is like a fiddle, it requires a *beau* to play upon it.

"I'll take your part," as the dog said when he robbed the cat of her portion of dinner.

"Now, as you are on my *side*, I hope you 'll stick to me," as the patient said to the strengthening plaster.

"*In-tea-resting*," as the fellow said when he discovered a dead rat in a box of tea.

"You 're doing a *smashing* business," as the gardener said to the hail stones.

"Drop a line if you want to see me," as the fish said to the angler.

"Be-*ware*," as the potter said to the lump of clay.
"I will be *burnt* first," saucily responded the mud.

A gentleman passing one of our new buildings, called out that he had a piece of brick in his eye. 'Then come here, exclaimed Pat, with the hod on his shoulder, 'come here my honey and I'll put a little more to it, and then you'll have a *well eye*.'

BROKEN BANKS.

The following schedule, showing the rates at which the notes of sundry broken banks of this state are redeemed, if redeemed at all, by the comptroller, will be found convenient for reference. It is copied from the Albany Daily Advertiser:

Notes redeemed by the comptroller at par:

City Bank of Buffalo.	Commercial Bank, N. Y.
City Trust, N. Y.	Wayne County Bank.

Notes redeemed by the comptroller at the following rates:

	Stock Ac.	Stock & Ext. Ac.
Binghamton Bank,	70	74
Cattaraugus Co. Bank,	85	77
Bank of Lodi,	83	97
Bk of Western N.Y. Rochester,	75	
Bank of Commerce, Buffalo,	76	
U. S. Bank, "		77
Mechanics' Bank, "		63
Erie County Bank, "	72	60
Phenix Bank, "		73
Bank of America, "	78	76
Merchants' Ex. Bank, "	81	65
Union Bank, "	81	
Tonawanda Bank,	68	
Tenth Ward Bank,	94	
Farmers' Bank Seneca Co.,	par	74
Millers' Bank, Clyde,	par	94
Staten Island Bank,	55	
Washington Bank,		35
Chelsea Bank,		25

Banks whose notes are not redeemed by the comptroller:

Allegany Co. Bank.	State Bank of N. Y., Buffalo.
Commercial Bank, Buff.	St. Lawrence Bank.
Bank of Olean.	Clinton Bank.
Bank of Buffalo.	Lewis County Bank.
Watervliet Bank.	Lafayette Bank, City of N. Y.
N. Y Banking Co.	Commercial Bank, Oswego.
Clinton County Bank.	

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.
N. B. An assortment kept on hand. 27.

NORRIS,
HAIR DRESSER &C.
No. 22 South Pearl Street.

To Builders and Contractors.

THE subscriber having purchased Caldwell and Cameron's Lock Establishment, is now prepared to execute orders on their improved plan, in all the variety of Door Locks now used in the best style of building. The utility of these locks will at once be apparent to any one who may examine them. The principal difficulties existing in almost every lock now in use, and so much complained of by builders and house owners, is almost entirely removed. The simple but substantial application of the spring greatly lessens friction, and consequently lessens and tendency to wear. There is no liability in any of its movements, to get out of order, and any number of them may be applied with perfect ease and security to doors of various thickness, without the usual alterations, trouble and expense, that generally attend the putting on of locks, as is best known to the experienced builder. Their utility has been thoroughly tested by experienced men, for the last two years, with entire satisfaction, and are considered by all who have used them, equal and in many respects superior to any other kind of lock now in the American market.

All orders addressed to the subscriber, at the Furnace, Fonda-street, will receive prompt attention.
ROB'T CUNNINGHAM.

Schenectady, Nov. 26, 1841.

Reference may be had to any of the undersigned gentlemen who have given their approving card for publication.

We, the undersigned builders, have used Caldwell and Cameron's patent door locks, and from their simple construction, cheapness and general utility, do not hesitate to recommend them to the public, as equal to any lock of American manufacture now in use.

BOARDMAN & VAN VOAST,
GEORGE McBAIN,
HENRY MORSE, *Builders in Albany*
JOSEPH HORSFALL,
JOHN KELLY,
CORNELIUS THOMPSON,
ELIAS LYON, *Builders in Schenectady.*

I have during the past year, put on a number of Caldwell and Cameron's patent mortice and knob locks, and consider them the easiest to put on, and the best working lock I have ever used or seen. 37 JOHN RAYSIDE, Albany.

LEATHER, OIL, AND FINDING STORE,
No. 18 *Hudson Street.*
J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String*, and *Patent Leather*, on hand and made to order. *Albany*, 1841.